GFESuite Update for the ISST

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Jan 21, 2004

Development Tasks (ISST)

Satellite, Climate, Better Smart Tools, Radar, New Model Data

Satellite Data in the GFE

◆ Approximately 50% finished.
◆ Raw satellite data is available in RPP software versions.
  - Only GOES data, not POES so far
◆ Smart inits are required to translate the raw data into "temperatures".
  - Need a good equation – ones we have are not valid.
◆ Need good color tables.

Climate Data in the GFE

- ◆ Approximately 10% finished.
- ◆ Working with NCDC to provide max/min monthly normals.
- ◆ Received sample set of data (4km resolution).
  - ▪ Able to display it on the GFE in test mode.
- ◆ Software needs to be written:
  - ▪ Allow access from tools and GFE displays
  - ▪ Interpolate temperatures to daily max/mins
  - ▪ Need to add capability in server to handle data.
- ◆ Need to acquire remainder of data from NCDC

Better Smart Tool Infrastructure

- Approximately 10% finished.

- Required to improve interpolation techniques in the GFE.

- Infrastructure will permit much more control/capability in smart tools.

  - Example: smart tools deal with only 1 grid at a time, need to look over time to do multiple grids.

Radar Data in the GFE

- Approximately 10% finished.
- Some prototyping done to bring in radar data to the GFE.
- Issues:
    - Radar mosaics are what is really needed, not individual radars.
    - GFE designed for 1hr grids, radar will be 6 minute grids. Some redesign required.

New Model Data

◆ New GFS/Eta data
- Has not been delivered on the SBN
- Not clear what fields are now planned.
- Not clear when the fields will be delivered.

◆ FSL can't make any changes until the data is flowing.
- Need to critique the changes we make.

◆ Field still has virtually useless model guidance fields for smart init for Day 4-7.

Other Development Tasks

Intersite Coordination, VTEC, Virtual Parms, Background Processing

Intersite Coordination

- A significant problem with ISC was discovered 15 months ago.
  - Snow/QPF overlays from adjacent offices and the home office depicted different time periods.
  - Made it impossible to collaborate
- This is finally being resolved with significant architectural changes to the GFE.

VTEC

- VTEC requirements are taking a significant amount of development time.
  - Will likely push off all science issues for the next quarter.
- VTEC mandate from HQ: "top priority"
- Very complicated schema to integrate concept with the IFPS concept, along with w/w/a.

Virtual Parms

◆ A fallout of the ISC problem/solution.

◆ May not release/expose this to the field yet.

◆ Allows definitions (equations) of weather elements that are automatically calculated on-the-fly:

- ■ Examples: Why run a smart tool to derive RH, when you already did Td and T?

◆ Could save forecasters lots of time, since it will impose meteorological consistency.

Background Processing

◆ Helps performance
- Limits number of concurrent background processes.

◆ Allows queuing of tasks (formatters, ifpIMAGE, scripts) from the GFE:
- To run on the GFE machine
- To run on the ifpServer machine

◆ Running on server
- Should increase GFE performance
- Should run faster (no network)

Other Tasks

Support, Performance, Text Formatters

Field Support

- Consuming a fair amount of resources in the following areas:
  - Text Formatter
  - Performance Problems (in the field)
  - General consultation/help on:
    - Listservers
    - Trouble Tickets
  - Estimate 15-25% of resources going towards this.

Performance

◆ Significant performance problems in the field with IFPS15.2

- GFEs "freeze" for up to 30 seconds at a time.

◆ NWSH, NGIT looking into problems with the px operating system.

- Known problem in the computer world with the px system.
- Patches will address some of the GFE performance problems.

Text Formatters

- Text Formatter IWT
  - To determine support issues for GFE formatters.
- Improved Weather Phrasing
- Another 100 or so requested enhancements or bugs identified.
- Allocations: 0.2 to 0.4 person year

When will enhancements be deployed?

RPP?, IFPS?

Schedules

◆ There currently are some development/schedule conflicts.

◆ Due to large amount of changes, these must be alpha field tested.

◆ IFPS16 – target for some changes
  - Due no later than mid-Feb. to NWSH
  - Not enough remaining development time.
  - Thus could slip to IFPS17 (early fall deployment).